REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed June 24, 2008. Upon entry of the amendments in this response, claims 1 – 20 remain pending. In particular, Applicants amend claims 9 – 10 and 19 – 20. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

I.   **Rejections Under 35 U.S.C. §112**

The Office Action indicates that claims 19 and 20 stand rejected under 35 U.S.C. §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In an effort to address the Examiner's concerns, Applicants amend claims 19 and 20, as indicated above, and submit that claims 19 and 20, as amended, meet the requirements of 35 U.S.C. §112.

II.   **Rejections Under 35 U.S.C. §101**

The Office Action indicates that claims 12, 19, and 20 stand rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. Applicants amend claims 12, 19, and 20, as indicated above. Applicants submit that these amendments comply with the Office Action request and that claims 12, 19, and 20, as amended, meet all the requirements of 35 U.S.C. §101.

III. Rejections Under 35 U.S.C. §103

A. Claim 1 is Allowable Over *Arvelo* in view of *Shin*

The Office Action indicates that claim 1 stands rejected under 35 U.S.C. §103(a) as

being allegedly unpatentable over U.S. Patent Number 7,082,107 ("*Arvelo*") in view of U.S.

Patent Publication Number 2005/0097409 ("*Shin*"). Applicants respectfully traverse this

rejection for at least the reason that *Arvelo* in view of *Shin* fails to disclose, teach, or suggest all

of the elements of claim 1. More specifically, claim 1 recites:

> A method for output power dithering for improved
> transmitter performance, the method comprising:
> transmitting a plurality of packets at a first output power;
> determining a first error rate associated with the
> transmission of the plurality of packets at the first output power;
> ***re-transmitting the previously transmitted plurality of***
> ***packets at at least one second output power different from***
> ***the first output power;***
> determining at least one second error rate associated with
> the transmission at the at least one second output power; and
> identifying a desired output power based at least in part on
> a comparison between the first error rate and the at least one
> second error rate.
> ***(Emphasis added).***

Applicants respectfully submit that claim 1 is allowable over the cited art for at least the

reason that neither *Arvelo* nor *Shin*, taken alone or in combination, discloses, teaches, or

suggests a "method for output power dithering for improved transmitter performance, the

method comprising… transmitting a plurality of packets at a first output power… determining a

first error rate associated with the transmission of the plurality of packets at the first output

power… [and] *re-transmitting the previously transmitted plurality of packets at at least*

one second output power different from the first output power" as recited in claim 1. First,

the Office Action argues "[a]ccording to Applicants, Arvelo does not compare error rates to

control output power (see paper dated 5/6/07, page 6)" (OA page 5, last paragraph). As the

Office Action cites a response filed over a year ago, Applicants assume that the Office Action is

simply addressing a previous response, thus failing to address amendments and arguments

submitted by Applicants in a response filed April 2, 2008. Accordingly, Applicants submit that the present Office Action is deficient pursuant to 37 C.F.R. 1.104(b), which states "[t]he examiner's action shall be complete as to all matters…" Thus, a subsequent Office Action, if necessary, should be nonfinal.

Secondly, the cited art fails to even suggest "***re-transmitting the previously transmitted plurality of packets***" as recited in claim 1. More specifically, *Arvelo* discloses a "process [that] counts the number of packet errors in the short observation window and compares that number of packets to a first threshold… one solution is a short window of 35 packets, a long window of 135 packets, a first threshold of 2 packet errors, a second threshold of 0 packet errors, and a third threshold of 4 packet errors" (column 3, line 63). Thus, as illustrated in this passage, *Arvelo* appears to disclose that a packet is sent and the number of packet errors is counted. Based on the counted packet errors, power may be adjusted for the next (and thus different) packet being sent. This is completely different than "***re-transmitting the previously transmitted plurality of packets at at least one second output power different from the first output power***" as recited in claim 1.

Further, *Shin* fails to overcome the deficiencies of *Arvelo*. More specifically, *Shin* discloses a "transmitter 50 [that] sends out a packet based on the initial transmission power level… The transmitter 50 computes the PER based on the immediate response to the transmitted packet and then determines whether the computed PER satisfies the target PER… in a case that the PER of the initial DP satisfies the target PER… the transmission power level is decreased by one step size (Δ)" (page 4, paragraph [0058]). As illustrated in this passage, *Shin* appears to disclose that the transmitter computes a PER and decreases power for the next packet to be transmitted. Nowhere does *Shin* even suggest that a packet is re-transmitted, not to mention "***re-transmitting the previously transmitted plurality of packets***

at at least one second output power different from the first output power" as recited in

claim 1. For at least these reasons, claim 1 is allowable.

> B. **Claim 2 is Allowable Over *Arvelo* in view of *Shin***

The Office Action indicates that claim 2 stands rejected under 35 U.S.C. §103(a) as

being allegedly unpatentable over U.S. Patent Number 7,082,107 ("*Arvelo*") in view of U.S.

Patent Publication Number 2005/0097409 ("*Shin*"). Applicants respectfully traverse this

rejection for at least the reason that *Arvelo* in view of *Shin* fails to disclose, teach, or suggest all

of the elements of claim 2. More specifically, claim 2 recites:

> A method for output power dithering for improved
> transmitter performance, the method comprising:
>> transmitting a plurality of packets at a first output power;
>> determining a first error rate associated with the
> transmission of the plurality of packets at the first output power;
>> ***re-transmitting the plurality of previously transmitted***
> ***packets at a second output power if the first error rate is***
> ***greater than a predetermined error rate value, wherein the***
> ***second output power is different from the first output power***;
>> determining a second error rate associated with the
> transmission at the second output power; and
>> adjusting the second output power if the second error rate
> is lower than the first error rate.
> **(Emphasis added).**

Applicants respectfully submit that claim 2 is allowable over the cited art for at least the

reason that neither *Arvelo* nor *Shin*, taken alone or in combination, discloses, teaches, or

suggests a "method for output power dithering for improved transmitter performance, the

method comprising… transmitting a plurality of packets at a first output power… determining a

first error rate associated with the transmission of the plurality of packets at the first output

power… [and] ***re-transmitting the plurality of previously transmitted packets at a second***

output power if the first error rate is greater than a predetermined error rate value,

wherein the second output power is different from the first output power" as recited in

claim 2. First, the Office Action argues "[a]ccording to Applicants, *Arvelo* does not compare

error rates to control output power (see paper dated 5/6/07, page 6)" (OA page 5, last paragraph). As the Office Action cites a response filed over a year ago, Applicants assume that the Office Action is simply addressing a previous response, thus failing to address amendments and arguments submitted by Applicants in a response filed April 2, 2008. Accordingly, applicants submit that the present Office Action is deficient pursuant to 37 C.F.R. 1.104(b), which states "[t]he examiner's action shall be complete as to all matters…" Thus, a subsequent Office Action, if necessary, should be nonfinal.

Secondly, the cited art fails to even suggest "*re-transmitting the previously transmitted plurality of packets*" as recited in claim 2. More specifically, *Arvelo* discloses a "process [that] counts the number of packet errors in the short observation window and compares that number of packets to a first threshold… one solution is a short window of 35 packets, a long window of 135 packets, a first threshold of 2 packet errors, a second threshold of 0 packet errors, and a third threshold of 4 packet errors" (column 3, line 63). Thus, as illustrated in this passage, *Arvelo* appears to disclose that a packet is sent and the number of packet errors is counted. Based on the counted packet errors, power may be adjusted for the next (and thus different) packet being sent. This is completely different than "*re-transmitting the plurality of previously transmitted packets at a second output power if the first error rate is greater than a predetermined error rate value, wherein the second output power is different from the first output power*" as recited in claim 2.

Further, *Shin* fails to overcome the deficiencies of *Arvelo*. More specifically, *Shin* discloses a "transmitter 50 [that] sends out a packet based on the initial transmission power level… The transmitter 50 computes the PER based on the immediate response to the transmitted packet and then determines whether the computed PER satisfies the target PER… in a case that the PER of the initial DP satisfies the target PER… the transmission power level is decreased by one step size (Δ)" (page 4, paragraph [0058]). As illustrated in this passage,

Shin appears to disclose that the transmitter computes a PER and decreases power for the next packet to be transmitted. Nowhere does *Shin* even suggest that a packet is re-transmitted, not to mention "***re-transmitting the plurality of previously transmitted packets at a second output power if the first error rate is greater than a predetermined error rate value, wherein the second output power is different from the first output power***" as recited in claim 2. For at least these reasons, claim 2 is allowable.

C. Claim 10 is Allowable Over *Arvelo* in view of *Shin*

The Office Action indicates that claim 10 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent Number 7,082,107 ("*Arvelo*") in view of U.S. Patent Publication Number 2005/0097409 ("*Shin*"). Applicants respectfully traverse this rejection for at least the reason that *Arvelo* in view of *Shin* fails to disclose, teach, or suggest all of the elements of claim 10. More specifically, claim 10 recites:

> A system for output power dithering for improved transmitter performance, the system comprising:
> a transmitter that transmits a plurality of packets at a first output power; and
> a processor that performs at least the following:
> determines a first error rate associated with the transmission of the plurality of packets at the first output power;
> ***causes the transmitter to re-transmit the plurality of previously transmitted packets at at least one second output power;***
> determines at least one second error rate associated with the transmission at the at least one second output power; and
> identifies a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate.
> ***(Emphasis added).***

Applicants respectfully submit that claim 10 is allowable over the cited art for at least the reason that neither *Arvelo* nor *Shin*, taken alone or in combination, discloses, teaches, or suggests a "system for output power dithering for improved transmitter performance, the

system comprising… a processor that performs at least the following… determines a first error rate associated with the transmission of the plurality of packets at the first output power… [and] *causes the transmitter to re-transmit the plurality of previously transmitted packets at at least one second output power*" as recited in claim 10. First, the Office Action argues "[a]ccording to Applicants, Arvelo does not compare error rates to control output power (see paper dated 5/6/07, page 6)" (OA page 5, last paragraph). As the Office Action cites a response filed over a year ago, Applicants assume that the Office Action is simply addressing a previous response, thus failing to address amendments and arguments submitted by Applicants in a response filed April 2, 2008. Accordingly, applicants submit that the present Office Action is deficient pursuant to 37 C.F.R. 1.104(b), which states "[t]he examiner's action shall be complete as to all matters…" Thus, a subsequent Office Action, if necessary, should be nonfinal.

Secondly, the cited art fails to even suggest "*re-transmitting the previously transmitted plurality of packets*" as recited in claim 10. More specifically, *Arvelo* discloses a "process [that] counts the number of packet errors in the short observation window and compares that number of packets to a first threshold… one solution is a short window of 35 packets, a long window of 135 packets, a first threshold of 2 packet errors, a second threshold of 0 packet errors, and a third threshold of 4 packet errors" (column 3, line 63). Thus, as illustrated in this passage, *Arvelo* appears to disclose that a packet is sent and the number of packet errors is counted. Based on the counted packet errors, power may be adjusted for the next (and thus different) packet being sent. This is completely different than "a processor that performs at least the following… *causes the transmitter to re-transmit the plurality of previously transmitted packets at at least one second output power*" as recited in claim 10.

Further, *Shin* fails to overcome the deficiencies of *Arvelo*. More specifically, *Shin* discloses a "transmitter 50 [that] sends out a packet based on the initial transmission power

level... The transmitter 50 computes the PER based on the immediate response to the transmitted packet and then determines whether the computed PER satisfies the target PER... in a case that the PER of the initial DP satisfies the target PER... the transmission power level is decreased by one step size (Δ)" (page 4, paragraph [0058]). As illustrated in this passage, *Shin* appears to disclose that the transmitter computes a PER and decreases power for the next packet to be transmitted. Nowhere does *Shin* even suggest that a packet is re-transmitted, not to mention "a processor that performs at least the following... *causes the transmitter to re-transmit the plurality of previously transmitted packets at at least one second output power*" as recited in claim 10. For at least these reasons, claim 10 is allowable.

D.   Claim 11 is Allowable Over *Arvelo* in view of *Shin*

The Office Action indicates that claim 11 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent Number 7,082,107 ("*Arvelo*") in view of U.S. Patent Publication Number 2005/0097409 ("*Shin*"). Applicants respectfully traverse this rejection for at least the reason that *Arvelo* in view of *Shin* fails to disclose, teach, or suggest all of the elements of claim 11. More specifically, claim 11 recites:

> A system for output power dithering for improved transmitter performance, the system comprising:
> means for transmitting a plurality of packets at a first output power;
> means for determining a first error rate associated with the transmission of the plurality of packets at the first output power;
> **means for re-transmitting the plurality of previously transmitted packets at at least one second output power different from the first output power;**
> means for determining at least one second error rate associated with the transmission at the at least one second output power; and
> means for identifying a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate.
> *(Emphasis added)*.

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Applicants respectfully submit that claim 11 is allowable over the cited art for at least the reason that neither *Arvelo* nor *Shin*, taken alone or in combination, discloses, teaches, or suggests a "system for output power dithering for improved transmitter performance, the system comprising… means for transmitting a plurality of packets at a first output power… means for determining a first error rate associated with the transmission of the plurality of packets at the first output power… [and] ***means for re-transmitting the plurality of previously transmitted packets at at least one second output power different from the first output power***" as recited in claim 11. First, the Office Action argues "[a]ccording to Applicants, Arvelo does not compare error rates to control output power (see paper dated 5/6/07, page 6)" (OA page 5, last paragraph). As the Office Action cites a response filed over a year ago, Applicants assume that the Office Action is simply addressing a previous response, thus failing to address amendments and arguments submitted by Applicants in a response filed April 2, 2008. Accordingly, applicants submit that the present Office Action is deficient pursuant to 37 C.F.R. 1.104(b), which states "[t]he examiner's action shall be complete as to all matters…" Thus, a subsequent Office Action, if necessary, should be nonfinal.

Secondly, the cited art fails to even suggest "***means for re-transmitting the plurality of previously transmitted packets at at least one second output power different from the first output power***" as recited in claim 11. More specifically, *Arvelo* discloses a "process [that] counts the number of packet errors in the short observation window and compares that number of packets to a first threshold… one solution is a short window of 35 packets, a long window of 135 packets, a first threshold of 2 packet errors, a second threshold of 0 packet errors, and a third threshold of 4 packet errors" (column 3, line 63). Thus, as illustrated in this passage, *Arvelo* appears to disclose that a packet is sent and the number of packet errors is counted. Based on the counted packet errors, power may be adjusted for the <u>next (and thus different) packet being sent</u>. This is completely different than "***means for re-transmitting the plurality***

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of previously transmitted packets at at least one second output power different from the first output power" as recited in claim 11.

Further, *Shin* fails to overcome the deficiencies of *Arvelo*. More specifically, *Shin* discloses a "transmitter 50 [that] sends out a packet based on the initial transmission power level… The transmitter 50 computes the PER based on the immediate response to the transmitted packet and then determines whether the computed PER satisfies the target PER… in a case that the PER of the initial DP satisfies the target PER… the transmission power level is decreased by one step size (Δ)" (page 4, paragraph [0058]). As illustrated in this passage, *Shin* appears to disclose that the transmitter computes a PER and decreases power for the next packet to be transmitted. Nowhere does *Shin* even suggest that a packet is re-transmitted, not to mention "**means for re-transmitting the plurality of previously transmitted packets at at least one second output power different from the first output power**" as recited in claim 11. For at least these reasons, claim 11 is allowable.

E.   Claim 12 is Allowable Over *Arvelo* in view of *Shin*

The Office Action indicates that claim 12 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent Number 7,082,107 ("*Arvelo*") in view of U.S. Patent Publication Number 2005/0097409 ("*Shin*"). Applicants respectfully traverse this rejection for at least the reason that *Arvelo* in view of *Shin* fails to disclose, teach, or suggest all of the elements of claim 12. More specifically, claim 12 recites:

> A computer readable medium having a program for causing a computer to perform output power dithering for improved transmitter performance, the dithering including at least the following:
> transmitting a plurality of packets at a first output power;
> code adapted to determine a first error rate associated with the transmission of the plurality of packets at the first output power;

> ***retransmitting the plurality of previously transmitted***
> ***packets at least one second output power different from***
> ***the first output power;***
>> determining at least one second error rate associated with
>> the transmission at the at least one second output power; and
>>> identifying a desired output power based at least in part on
>>> a comparison between the first error rate and the at least one
>>> second error rate.
>
> ***(Emphasis added).***

Applicants respectfully submit that claim 12 is allowable over the cited art for at least the reason that neither *Arvelo* nor *Shin*, taken alone or in combination, discloses, teaches, or suggests a "computer readable medium having a program for causing a computer to perform output power dithering for improved transmitter performance, the dithering including at least the following... transmitting a plurality of packets at a first output power... determining a first error rate associated with the transmission of the plurality of packets at the first output power... [and] ***retransmitting the plurality of previously transmitted packets at least one second output power different from the first output power***" as recited in claim 12. First, the Office Action argues "[a]ccording to Applicants, Arvelo does not compare error rates to control output power (see paper dated 5/6/07, page 6)" (OA page 5, last paragraph). As the Office Action cites a response filed over a year ago, Applicants assume that the Office Action is simply addressing a previous response, thus failing to address amendments and arguments submitted by Applicants in a response filed April 2, 2008. Accordingly, Applicants submit that the present Office Action is deficient pursuant to 37 C.F.R. 1.104(b), which states "[t]he examiner's action shall be complete as to all matters..." Thus, a subsequent Office Action, if necessary, should be nonfinal.

Secondly, the cited art fails to even suggest "***retransmitting the plurality of previously transmitted packets at least one second output power different from the first output power***" as recited in claim 12. More specifically, *Arvelo* discloses a "process [that] counts the number of packet errors in the short observation window and compares that number

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of packets to a first threshold… one solution is a short window of 35 packets, a long window of 135 packets, a first threshold of 2 packet errors, a second threshold of 0 packet errors, and a third threshold of 4 packet errors" (column 3, line 63). Thus, as illustrated in this passage, *Arvelo* appears to disclose that a packet is sent and the number of packet errors is counted. Based on the counted packet errors, power may be adjusted for the <u>next (and thus different) packet being sent</u>. This is completely different than "***retransmitting the plurality of previously transmitted packets at at least one second output power different from the first output power***" as recited in claim 12.

Further, *Shin* fails to overcome the deficiencies of *Arvelo*. More specifically, *Shin* discloses a "transmitter 50 [that] sends out a packet based on the initial transmission power level… The transmitter 50 computes the PER based on the immediate response to the transmitted packet and then determines whether the computed PER satisfies the target PER… in a case that the PER of the initial DP satisfies the target PER… the transmission power level is decreased by one step size (Δ)" (page 4, paragraph [0058]). As illustrated in this passage, *Shin* appears to disclose that the transmitter computes a PER and decreases power for the next packet to be transmitted. Nowhere does *Shin* even suggest that a packet is re-transmitted, not to mention "***retransmitting the plurality of previously transmitted packets at at least one second output power different from the first output power***" as recited in claim 12. For at least these reasons, claim 12 is allowable.

F. **Claims 3 – 9 and 13 – 20 are Allowable Over *Arvelo* in view of *Shin***

The Office Action indicates that claims 3 – 9 and 13 – 20 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent Number 7,082,107 ("*Arvelo*") in view of U.S. Patent Publication Number 2005/0097409 ("*Shin*"). Applicants respectfully traverse this rejection for at least the reason that *Arvelo* in view of *Shin* fails to disclose, teach, or suggest all of the elements of claims 3 – 9 and 13 – 20. More specifically, dependent claims 13 – 16 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. Dependent claims 3 – 9 and 17 – 18 are believed to be allowable for at least the reason that they depend from allowable independent claim 2. Dependent claims 19 – 20 are believed to be allowable for at least the reason that they depend from allowable independent claim 12. *In re Fine*, *Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and Official Notice, or statements interpreted similarly, should not be considered well-known for the particular and specific reasons that the claimed combinations are too complex to support such conclusions and because the Office Action does not include specific findings predicated on sound technical and scientific reasoning to support such conclusions.

If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

_____/afb/_____
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